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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/739,994	12/18/2000	Mikael Bisgaard-Bohr	9684	4293

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EXAMINER	
NGUYEN, CINDY	

ART UNIT	PAPER NUMBER
2161	

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/739,994	BISGAARD-BOHR ET AL.	
	Examiner	Art Unit	
	Cindy Nguyen	2171	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2004* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 3-9, 11-17, 19-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-9,11-17 and 19-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 December 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Arguments (filed 10/27/04).

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3-9, 11-17, 19-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

According to lines 20-23 on page 8, box 302 is a Gaussian Mixture Model algorithm, which creates data model 200. However, according to the description of figure 2 from page 7 line 27 to page 8, line 14, element 200 contains three data bases where information about purchased items, transaction sales, and aggregate data is stored. There is no description of how a Gaussian Mixture Algorithm is applied or utilized. Gaussian Mixture Algorithms generally model overlapping individual Gaussian distributions. In this instance, three sets of stored information or data are said to represent a Gaussian Mixture model. The actual application of the statistical tool is not explained, and the result appears to be only tables of accumulated transaction data. Since the Gaussian Mixture Model is recited in all of the base claims, its use and application must be described in the specification.

Appropriate correction and clarification is required.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3-9, 11-17, 19-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant claimed as the invention.

Regarding claims 1 (at page 2, lines 4-5), 9 (at page 3, lines 4-5) and 17 (at page 4, lines 4-5), "wherein the data model comprises a Gaussian Mixture Model that stores retail transactional data." A model is not a storage device and its function is not to store data. A model contains mathematical or conceptual elements that contain relationships in the form of equations, verbal descriptions, etc.; which relates two or more sets of data. For example, a falling object may be described in terms of the mathematics of velocity and acceleration. This recitation describes the storage of real world data. Although the data may represent some characteristics of the real world, it is not understood how a Gaussian Mixture is applied.

Regarding claims 1 (at page 2, lines 9-10), 9 (at page 3, lines 9-10) and 17 (at page 4, lines 9-10), recite the data model is mapped to aggregate the transactional data for cluster analysis of shopping behavior." The recitation does not provide an object to receive the mapping. What is the data model mapped into or onto?

1. Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3, 4, 7, 9,11, 12,15, 17,19, 20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fayyad et al. (U.S 6263337) (Fayyad) in view of Blinn et al. (6058373) (Blinn) and further in view of Heckerman et al. (US 6330563) (Heckerman).

Regarding claims 1, 9 and 17, Fayyad disclose: a method, an apparatus for a data structure, for analyzing data in a computer-implemented data mining system (12, fig. 2 and corresponding text, Fayyad), wherein the data structure is a data model that comprises a Gaussian Mixture Model that stores retail transactional data[1] (120, fig. 4 and corresponding text and col. 9, lines 22-67, Fayyad).

However, Fayyad didn't disclose: a basket table that contains summary information about the transactional data, an item table that contains information about individual items referenced in the transactional data, and a department table that contains aggregate information about the transactional data. On the other hand, Blinn discloses: a basket table that contains summary information about the retail transactional data (fig. 5 and 6 and corresponding text, Blinn), an item table that contains information about individual items referenced in the retail transactional data

(fig. 8A-B and corresponding text, Blinn), and a department table that contains aggregate information about the retail transactional data (fig. 10 and corresponding text, Blinn). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include summary table about transactional data, table contains information about individual items referenced data and department table that contains aggregate information about the transaction data in the system of Fayyad as taught by Blinn. The motivation being to enable system allows merchants to easily customize the electronic merchandising system for diverse sales transactions (col. 2, lines 10-19, Blinn).

However, Fayyad/Blinn didn't disclose: the data model is mapped to aggregate the transactional data for cluster analysis of shopping behavior. On the other hand, Heckerman discloses: the data model is mapped to aggregate the transactional data for cluster analysis of shopping behavior (col. 6, lines 43-55, Heckerman). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include data model is mapped to aggregate the transactional data for cluster analysis of shopping behavior in the combination system of Fayyad/Blinn as taught by Heckerman. The motivation being to enable the user to group the useful information about the transactional data into subgroups and to organize data in the data mining system.

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[1] In Fayyad, Gaussian Mixture Model performs automated analysis of large databases to extract useful information such as models or predictors from data stored in the database.

Regarding claims 3, 11 and 19, most of the limitations of these claims have been noted in the rejection of claims 1, 9 and 17 above, respectively. In addition Fayyad/Blinn/Heckerman disclose: Wherein the cluster analysis groups the transactional data into coherent groups according to perceived similarities in the transactional data (col. 8, lines 35-64, Fayyad).

Regarding claims 4, 12 and 20, all the limitations of these claims have been noted in the rejection of claims 1, 9 and 17 above, respectively. In addition, Fayyad/Blinn/Heckerman discloses: wherein the data model is stored in a relational database managed by a relational database management system (col. 13, lines 24-33, Blinn).

Regarding claims 5, 13 and 21, all the limitations of these claims have been noted in the rejection of claims 1, 9 and 17, respectively. In addition, Fayyad/Blinn/Heckerman discloses: wherein the data model is accessed from a relational database managed by a relational database management system (col. 16, lines 1-12, Blinn).

Regarding claims 7, 15 and 23, all the limitations of these claims have been noted in the rejection of claims 1, 9 and 17, respectively. In addition, Fayyad/Blinn/Heckerman disclose: wherein the data model is mapped into a database view to produce a correct level of aggregation for statistical analysis (col. 10, lines 1-12, Heckerman).

3. Claims 6, 8, 14, 16 , 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fayyad et al. (U.S 6263337) (Fayyad) in view of Blinn et al.

(6058373) (Blinn) and further in view of Heckerman et al. (US 6330563) (Heckerman) and further in view of Lazarus et al. (U.S 6430539) (Lazarus).

Regarding claims 8, 16 and 24, all the limitations of these claims have been noted in the rejection of claims 1, 9 and 17 above, respectively. In addition, Fayyad/Blinn/Heckerman /Lararus discloses: wherein the data model is comprised of one row per transaction in the transactional data (table 3 and col. 14, lines 15-51, Lazarus). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include transaction step of one row per transaction in the transaction data in the combination system of Fayyad/Blinn/Heckerman as taught by Lazarus. The motivation being to enable the user to process one transaction data at the time to avoid corruption of data by the system.

Regarding claims 6, 14 and 22, all the limitations of these claims have been noted in the rejection of claims 1, 9 and 17, respectively. In addition, Fayyad/Blinn/Heckerman/Lazarus discloses: wherein the data model is mapped into a single flat table format to produce a correct level of aggregation for statistical analysis (table 3 and col. 14, lines 15-51, Lazarus). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include data model is mapped into a single flat table in the combination system of Fayyad/Blinn/Heckerman as taught by Lazarus). The motivation being to enable the user to implement data model into a single format and classifying data in the table.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

4. Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy Nguyen whose telephone number is 571-272-4025. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cindy Nguyen
July 21, 2004

FRANTZ COBY
PRIMARY EXAMINER